Current-use pesticides in coho salmon habitat in the Fraser River System, British Columbia

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The widespread use of pesticides to control and eliminate pests, fungi and weeds can present a risk to non-target organisms, including sensitive aquatic species such as salmonids. Despite this concern, little is known about the fate and effects of the approximately 300 pesticides currently registered for use in British Columbia. We are carrying out a watershed-based study of pesticides in salmon-bearing tributaries of the Fraser River. Samples of air, water, sediment and coho salmon *(Oncorhynchus kisutch)* smolts were collected from two sites, representing urban and agricultural land use. New analytical methods were developed in order to extract and analyze those pesticides that we had identified as a concern to salmon health. Forty-four percent of the pesticides identified on our list of concern were detected at the agricultural site, while 35% of the pesticides analyzed were detected at the urban site. Total pesticide concentrations in water were > 28 ng L-1 at the agricultural site, and > 7 ng L-1 at the urban site. The presence of these reportedly non-persistent pesticides in British Columbia`s waterways may adversely affect salmon health. We are collaborating with Dr. Chris Kennedy and Keith Tierney at Simon Fraser University to determine whether these concentrations and/or types of priority Current Use Pesticides are having an effect on the olfactory system and behaviour of coho salmon smolts.